

REMARKS

Claims 1-34 and 57-66 were canceled in a Preliminary Amendment filed on September 9, 2003. Claims 35-45 were withdrawn in a Response to Restriction Requirement filed on March 27, 2006. In this Amendment, claims 46, 50, 52, 56, 67, 69, and 80 have been amended to more particularly point out and distinctly claim the invention. Claims 48, 49, 51, 68, 71-73, 82, 83, and 85 have been cancelled without prejudice. The subject matter of claims 49 and 51 has been included into claim 46. The subject matter of claim 68 has been included into claim 50. The subject matter of claims 72 and 73 has been included into claim 69. The subject matter of claims 83 and 85 has been included into claim 80. No new matter is introduced by these amendments. Claims 46, 47, 50, 52-56, 67, 69, 70, 74-81, 84, and 86-90 are pending after entry of this Amendment. Of these pending claims, claims 46, 69, and 80 are independent.

Applicant has carefully reviewed the rejections of the claims by the Office and respectfully requests reconsideration of the claims in view of forgoing amendments to the claims and the remarks presented below.

Rejections under 35 U.S.C. § 102

Claims 46, 69, and 80 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ungerstedt (US 5,925,018). This rejection is respectfully traversed.

Amended claims 46 and 80 recite that the plunger stem comprises an "open area in the area extending from the threaded portion to the stopper to receive the threaded shaft." An example of this claimed feature can be seen by reference to FIGS. 2 and 5 of the application. One will note from FIG. 5 that the threaded screw 54 fits within the open area in the "H" section of the plunger stem 57 (see ¶0033 of publication US 2004/0049161). Referring to FIG. 2, it will be noted that this claimed feature results in a very compact syringe driver system, especially when compared to the prior art as shown in FIG. 1 of the application and FIG. 1 of Ungerstedt. The Ungerstedt system requires an extended nut 4 to reach the screw and does not include an open area of the stem to receive the threaded shaft as applicant claims. Instead, the "nut 4" of Ungerstedt is made larger to extend far enough away from the plunger stem ("plunger rod 5") to engage the threaded shaft ("screw 3"). This is akin to the prior art shown in FIG. 1 of the present application and does not even suggest applicant's claimed feature.

Regarding claims 69 and 80, as amended, the claims recite that "the flange includes a cut-out within which the thread is disposed, the flange having edges that flare away from the cut-out to give the cut-out a non-clamping rounded V-shape wherein the V-shape guides the flange over the threaded shaft to engage the thread with the threaded shaft but does not exert a clamping force to the threaded shaft." Such a configuration is not disclosed or even suggested by Ungerstedt. Instead, Ungerstedt specifically teaches that his nut 4 is "open at right angles to the plunger axis and which can be caused to clamp resiliently around the screw" (see column 2, lines 9-12). In column 3, lines 10-13 of Ungerstedt, it is taught that the nut 4 "includes a U-shaped recess whose one U-leg has a screw-thread 30 cut thereon, wherein the distance between the legs is adapted to the screw-thread of the screw 3." Instead, applicant's cut-out is a "rounded V-shape to facilitate inserting the syringe onto the threaded shaft making syringe loading faster, easier, and more accurate" (see the last sentence of ¶ 34 of the publication 2004/0049161). Applicant's syringe is held in contact with the lead screw 54 by means of the "guide slot is provided on the plunger substantially opposite the thread, the guide slot configured to receive a guide rail to securely seat the thread on the threaded shaft," as is claimed. The right angle legs of the nut taught by Ungerstedt are not necessary.

Because of these differences, applicant asserts that the 35 USC § 102(e) rejection has been overcome and requests its withdrawal.

Rejection under 35 USC ¶ 103

Regarding the claimed threaded portion, applicant has reviewed Das and Bucchianeri. Applicant is claiming the feature of the flange including a "cut-out within which the threaded portion is disposed and edges of the flange flare away from the cut-out to give the cut-out a non-clamping rounded V-shape wherein the V-shape guides the flange over the threaded shaft to engage the threaded portion with the threaded shaft but does not exert a clamping force to the threaded shaft," that facilitates inserting the syringe onto the threaded shaft making syringe loading faster, easier, and more accurate. However, the threaded devices of Das and Bucchianeri do not provide such a feature.

In Das, the threaded portion 18 in FIGS. 8 and 9 for engaging a screw 15 do not appear to include a V-shape or similar shape that facilitates loading a syringe. In Das, the half nut 18 appears to be a permanent device that is not a part of a syringe and has no effect on syringe

loading. The same is true for Bucchianeri. The half nuts 22 and 23 are a permanent part of the driver system and are not found on a replaceable syringe. These half-nuts in Bucchianeri are best seen in FIG. 2 and, as will be noted, they likewise do not include a flange flare away to result in easier and more accurate loading of a syringe as applicant is claiming. For these reasons, applicant submits that the claims are patentable. Each dependent claim incorporates the claimed elements of the independent claim from which it directly or indirectly depends, and therefore, applicant submits that all claims are patentable for the reasons discussed above.

Conclusion

In view of the foregoing, Applicant respectfully submits that all pending claims are in condition for allowance. Reconsideration of the application is respectfully requested.

The Commissioner is authorized to charge deposit account no. 06-2425 for any fees arising from the filing of this paper or for related extensions of time to respond.

Respectfully submitted,

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